



Complete Summary

TITLE

Acute myocardial infarction: percent of patients without beta blocker contraindications who received a beta blocker within 24 hours after hospital arrival.

SOURCE(S)

Acute myocardial infarction core performance measures. In: Specifications manual for national implementation of hospital core measures. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 July. p. AMI-1 to AMI-9-6.

Center for Medicare and Medicaid Services (CMS). 7th statement of work (SOW). Quality of care measure specifications: Acute myocardial infarction (AMI). Baltimore (MD): Center for Medicare and Medicaid Services (CMS); 2002 Aug 1. Various p.

Brief Abstract

DESCRIPTION

This measure assesses the percentage of acute myocardial infarction (AMI) patients without beta blocker contraindications who received a beta blocker within 24 hours after hospital arrival.

This measure represents an alignment of Centers for Medicare and Medicaid Services and Joint Commission on Accreditation of Health Care Organizations measures. As such, some attributes characterized in this NQMC summary may be attributable to either or both organizations.

RATIONALE

The early use of beta blockers in patients with acute myocardial infarction (AMI) reduces mortality and morbidity. Immediate administration of beta blocker therapy appears to reduce the magnitude of infarction and associated complications in subjects not receiving concomitant thrombolytic therapy. Beta blockers also reduce the rate of reinfarction in patients receiving thrombolytic therapy. National guidelines strongly recommend early beta blockers for patients hospitalized with AMI. Despite these recommendations, beta blockers remain underutilized in older patients hospitalized with AMI. Results from the National Cooperative Cardiovascular Project demonstrate that beta blockers are substantially underutilized nationwide.

PRIMARY CLINICAL COMPONENT

Acute myocardial infarction; beta blocker

DENOMINATOR DESCRIPTION

Acute myocardial infarction (AMI) patients without beta blocker contraindications (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Acute myocardial infarction (AMI) patients who received a beta blocker within 24 hours after hospital arrival

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [1999 update: ACC/AHA guidelines for the management of patients with acute myocardial infarction. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines \(Committee on Management of Acute Myocardial Infarction\).](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Overall poor quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Acute myocardial infarction core performance measures. In: Specifications manual for national implementation of hospital core measures. Oakbrook Terrace (IL):

Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 July. p. AMI-1 to AMI-9-6.

Jencks SF, Cuerdon T, Burwen DR, Fleming B, Houck PM, Kussmaul AE, Nilasena DS, Ordin DL, Arday DR. Quality of medical care delivered to Medicare beneficiaries: A profile at state and national levels. JAMA 2000 Oct 4;284(13):1670-6. [PubMed](#)

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Collaborative inter-organizational quality improvement
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Each year 900,000 people in the United States (U.S.) are diagnosed with acute myocardial infarction (AMI); of these, approximately 225,000 cases result in death and, it is estimated that an additional 125,000 patients die before obtaining medical care.

EVIDENCE FOR INCIDENCE/PREVALENCE

American College of Cardiology, American Heart Association Task Force on Practice Guidelines, Committee on Management of Acute Myocardial Infarction. Ryan TJ, Antman EM, Brooks NH, Califf RM, Hillis LD, Hiratzka LF, Rapaport E, Riegel B, Russell RO, Smith EE III, Weaver WD. ACC/AHA guidelines for the management of patients with acute myocardial infarction: 1999 Update. Bethesda (MD): American College of Cardiology (ACC), American Heart Association (AHA); 1999. Various p.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Cardiovascular disease, including acute myocardial infarction (AMI), is the leading cause of death in the United States (U.S.).

EVIDENCE FOR BURDEN OF ILLNESS

French WJ. Trends in acute myocardial infarction management: use of the National Registry of Myocardial Infarction in quality improvement. Am J Cardiol 2000 Mar 9;85(5A):5B-9B; discussion 10B-12B. [PubMed](#)

UTILIZATION

Cardiovascular disease, including acute myocardial infarction (AMI), is the primary disease category for hospital patient discharges.

EVIDENCE FOR UTILIZATION

French WJ. Trends in acute myocardial infarction management: use of the National Registry of Myocardial Infarction in quality improvement. Am J Cardiol 2000 Mar 9;85(5A):5B-9B; discussion 10B-12B. [PubMed](#)

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

Timeliness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Discharges, 18 years and older, with a principal diagnosis of acute myocardial infarction (AMI)

DENOMINATOR (INDEX) EVENT

Clinical Condition

Institutionalization

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Discharges with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Principal Diagnosis Code for acute myocardial infarction (AMI)

Exclusions

- Patients less than 18 years of age
- Patients transferred to another acute care hospital on day of arrival
- Patients received in transfer from another acute care hospital on day of arrival, including another emergency department
- Patients discharged on day of arrival
- Patients who expired on day of arrival
- Patients who left against medical advice on day of arrival
- Patients with one or more of the following beta blocker contraindications/reasons for not prescribing a beta blocker documented in the medical record:
 - Beta blocker allergy;
 - Bradycardia (heart rate less than 60 beats per minute [bpm]) on arrival or within 24 hours after arrival while not on a beta blocker;
 - Heart failure on arrival or within 24 hours after arrival;

- Second or third degree heart block on electrocardiogram (ECG) on arrival or within 24 hours after arrival and does not have a pacemaker;
- Shock on arrival or within 24 hours after arrival;
- Systolic blood pressure less than 90 mm Hg on arrival or within 24 hours after arrival; or
- Other reasons documented by a physician, nurse practitioner, or physician assistant for not giving a beta blocker within 24 hours after hospital arrival.

Refer to the original measure documentation for details.

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Acute myocardial infarction (AMI) patients who received a beta blocker within 24 hours after hospital arrival

Exclusions

Unspecified

Refer to the original measure documentation for details.

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative and medical records data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

The core measure pilot project was a collaboration among the Joint Commission, five state hospitals associations, five measurement systems, and 83 hospitals from across nine states. Participating hospitals collected and reported data for acute myocardial infarction (AMI) measures from December 2000 to December 2001.

Core measure reliability visits were completed the summer of 2001 at a random sample of 16 participating hospitals across 6 states.

Preliminary pilot test data reveals a mean rate of 85% for this measure.

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

Joint Commission on Accreditation of Healthcare Organizations (JCAHO). A comprehensive review of development and testing for national implementation of hospital core measures. [internet]. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 [cited 2002 Nov 13]. [8 p].

Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Information on final specifications for national implementation of hospital core measures as of 11/04/02. [internet]. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 Nov 04 [cited 2002 Nov 13]. [10 p].

Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Overview of the acute myocardial infarction (AMI) core measure set. [internet]. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 Mar 22 [cited 2002 Nov 13]. [4 p].

Identifying Information

ORIGINAL TITLE

Beta blocker at arrival.

MEASURE COLLECTION

[Centers for Medicare and Medicaid Services/Joint Commission on Accreditation of Healthcare Organizations Aligned Measures](#)

MEASURE SET NAME

[Centers for Medicare and Medicaid Services/Joint Commission on Accreditation of Healthcare Organizations Aligned Acute Myocardial Infarction Measures](#)

DEVELOPER

Centers for Medicare and Medicaid Services
Joint Commission on Accreditation of Healthcare Organizations

ENDORSER

National Quality Forum

INCLUDED IN

National Healthcare Disparities Report (NHDR)
National Healthcare Quality Report (NHQR)

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2000 Aug

REVISION DATE

2002 Aug

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Acute myocardial infarction core performance measures. In: Specifications manual for national implementation of hospital core measures. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 July. p. AMI-1 to AMI-9-6.

Center for Medicare and Medicaid Services (CMS). 7th statement of work (SOW). Quality of care measure specifications: Acute myocardial infarction (AMI). Baltimore (MD): Center for Medicare and Medicaid Services (CMS); 2002 Aug 1. Various p.

MEASURE AVAILABILITY

Centers for Medicare and Medicaid Services (CMS)
The individual measure, "AMI-6: Beta Blocker at Arrival," is published in "Centers for Medicare/Medicaid Services, 7th Statement of Work, Quality of Care Measure Specifications: Acute Myocardial Infarction (AMI)."

For more information, e-mail CMS PROINQUIRIES at proinquiries@cms.hhs.gov.

Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
The individual measure "Beta Blocker at Arrival," is published in "Specifications Manual for National Implementation of Hospital Core Measures." Information is available from the [Joint Commission on Accreditation of Healthcare Organizations \(JCAHO\) Web site](http://www.jcaho.org). For further information refer to www.jcaho.org.

COMPANION DOCUMENTS

Centers for Medicare and Medicaid Services (CMS)
A software application designed for the collection and analysis of quality improvement data, the CMS Abstraction and Reporting Tool (CART), is available from the [CMS CART Web site](http://www.cms.gov). Supporting documentation is also available.

For more information, e-mail CMS PROINQUIRIES at proinquiries@cms.hhs.gov.

Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
The following are available:

- Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Overview of the acute myocardial infarction (AMI) core measure set. [internet]. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 Mar 22 [cited 2002 Nov 13]. [4 p]. This document is available from the [Joint Commission on Accreditation of Healthcare Organizations \(JCAHO\) Web site](http://www.jcaho.org).
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO). A comprehensive review of development and testing for national implementation of hospital core measures. [internet]. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 [cited 2002 Nov 13]. [8 p]. This document is available from the [JCAHO Web site](http://www.jcaho.org).
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Attributes of core performance measures and associated evaluation criteria. [internet]. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 [cited 2002 Nov 13]. [4 p]. This document is available from the [JCAHO Web site](http://www.jcaho.org).
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Information on final specifications for national implementation of hospital core

measures as of 11/04/02. [internet]. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2002 Nov 04 [cited 2002 Nov 13]. [10 p]. This document is available from the [JCAHO Web site](#).

NQMC STATUS

This NQMC summary was completed by ECRI on February 7, 2003. The information was verified by the Centers for Medicare/Medicaid Services and the Joint Commission on Accreditation of Healthcare Organizations on February 12, 2003.

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